FLORIDA DEPARTMENT OF TRANSPORTATION
State Materials Office
5007 NE 39th Avenue
Gainesville, Florida 32609

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Florida Testing Method
for
MOISTURE-DENSITY RELATIONS OF SOILS USING A 2.5-kg [5.5-lb] RAMMER AND A 305-mm [12-in.] DROP

FM 1-T 099

FM 1-T 099 is identical to AASHTO T 99 except for the following provisions:

1. Delete Section 1.2 and the engineer will determine which Method shall govern.

2. The following additional apparatus shall be required:

   2.1. Jaw Crusher – An electric-powered mechanical jaw crusher having a minimum jaw plate dimension of 2.25 x 3.5 inches (57mm x 90 mm) set at a maximum opening of 3/4 inch (19 mm) with an under tolerance of 1/8 inch (3.175 mm).

3. Replace sections 4.3 and 8.3-8.4 with the following procedure:

   3.1. **Materials used for base** - For materials used for base, particles larger than 3/4 inch cannot be separated from the sample before crushing. The entire sample shall be passed incrementally through a mechanical jaw crusher so that the entire sample passes the 3/4 inch sieve. The mechanical jaw crusher shall have a minimum jaw plate dimension of 2.25 x 3.5 inches. No portion of the sample shall be passed through the crusher more than once. Those pieces not reduced by mechanical crushing shall be discarded. The material is then passed through a No. 4 sieve, and the percentage retained is recorded.

   3.2. Representative samples should be obtained by recombining the separated plus No. 4 and minus No. 4 materials into approximately 11 lbs. (4.99 kg) or more samples using the gradation percentage of each recorded in the previous step. If no correction was necessary, samples should be obtained from the mixed bulk sample. The minimum number of specimens obtained for compaction shall be in compliance with the requirements of the AASHTO test method. For non-cohesive well drained soils (A-1, A-3, A-2-4 non-plastic) a minimum of 4 specimens representing two points below the optimum moisture, one at or near optimum, and one past optimum shall be acceptable.

   3.3. Apply Note 6 to all soil types except A-3 and Non-Plastic A-2-4. For A-3 and

Non-Plastic A-2-4 soils, the engineer will decide whether to apply Note 6. Preparation of separate samples with varying moisture contents is an acceptable option for all types of soils, regardless of the soaking period. If separate samples are prepared, Note 6 can be applied immediately prior to compacting the materials and determine moisture contents as outlined in section 5.3 or by ASTM D 4643 (Determination of Water (Moisture) Content of Soil by the Microwave Oven Method).

4. Prior to compaction samples of soil-water mixtures prepared in sections 5.1 and 9.1 shall be placed in covered containers and allowed to stand in accordance with Table 1.

Table 1. Dry Preparation Method Soaking Times

Classifications (based on AASHTO M 231)	Minimum Soaking Times (Hours)
A-3	No Requirement
A-2-4 (Non-Plastic)	3
A-1, A-2-4 (Plastic), A-2-5, A-2-6, A-2-7, A-4, A-5, A-6, A-7	12